INSTRUCTION MANUAL

NEO TP500

SPA CONTROL TOUCHSCREEN

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Designed, Engineered & Manufactured in the USA.

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SAVE THIS MANUAL

PLEASE MAKE IT AVAILABLE TO ALL OTHER SPA USERS

⚠ WARNING! Qualified Technician Required for Service and Installation

BASIC INSTALLATION AND CONFIGURATION GUIDELINES

- Use minimum 6AWG copper conductors only.
- Readily accessible disconnecting means to be provided at time of installation.
- Permanently connected power supply.
- Connect only to a circuit protected by a Class A Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) mounted at least 5' (1.52M) from the inside walls of the spa/hot tub and in line of sight from the equipment compartment.
- CSA enclosure: Type 2
- Refer to Wiring Diagram inside the cover of the control enclosure.
- Refer to Installation and Safety Instructions provided by the spa manufacturer.

WARNING! People with infectious diseases should not use a spa or hot tub.

WARNING! To avoid injury, exercise care when entering or exiting the spa or hot tub.

WARNING! Do not use a spa or hot tub immediately following strenuous exercise.

WARNING! Prolonged immersion in a spa or hot tub may be injurious to your health.

WARNING! Maintain water chemistry in accordance with the Manufacturers instructions.

WARNING! The equipment and controls shall be located not less than 1.5 meters horizontally from the spa or hot tub.

WARNING! GFCI OR RCD PROTECTION.

The Owner should test and reset the GFCI or RCD on a regular basis to verify its function.

CAUTION! CSA COMPLIANCE

- Test the ground fault circuit interrupter before each use of the spa.
- Read the instruction manual.
- Adequate drainage must be provided if the equipment is to be installed in a pit.
- For use only within an enclosure rated CSA Enclosure 3.
- Connect only to a circuit protected by a Class A ground fault circuit interrupter or residual current device.
- To ensure continued protection against shock hazard, use only identical replacement parts when servicing.
- Install a suitably rated suction guard to match the maximum flow rate marked.

WARNING!

- Water temperature in excess of 100°F may be injurious to your health.
- Disconnect the electric power before servicing. Keep access door closed.

ATTENTION! CSA CONFORMITÉ

- Toujours verifier l'efficacite du disjoncteur differentiel avant d'utiliser le bain.
- Lire la notice technique.
- Lorsque l'appareillage est installe dans une fosse, on doit assurer un drainage adequat.
- Employer uniquement a l'interieur d'une cloture CSA Enclosure 3.
- Connecter uniquement a un circuit protege par un disjoncteur differentiel de Class A.
- Afin d'assurer une protection permanente contre le danger de shock electrique, lors de l'entretien employer seulement des pieces de rechange identiques.
- Les prises d'aspiration doivent etre equipees de grilles convenant au debit maximal indique.

ADVERTISSEMENT!

- Des temperatures de l'eau superieures a 38°C peuvent presenter un danger pour la sante.
- Deconnecter du circuit d'alimentation electrique avant l'entretien. Garder la porte fermer.

⚠ WARNING! SHOCK HAZARD! NO USER SERVICEABLE PARTS.

Do not attempt service of this control system. Contact your dealer or service organization for assistance. Follow all owner's manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

⚠ **CAUTION!** High voltage levels exist inside the control box and can cause injury or possibly electrocution. To prevent premature control failure do not hose down, flood or allow water to enter the control box.

WARRANTY

For product registration visit: www.waterwayplastics.com.

For Warranty questions or claims please contact point of purchase.

NEO TP500 OPERATION

PRIMING MODE:

When power is ON, the system will enter a Priming Mode with priming message on the panel. In this mode, all devices such as JETS, BLOWERS or LIGHT are operable. JETS can be turned on and off to prime the pump. System will exit priming mode and go to MAIN display when RETURN button is pushed, or after 4 minutes of inactivity.

SPA OPERATION:

Turn system accessories ON and OFF by pushing appropriate button on the left side of panel (LIGHT, JET 1, BLOWER, JET 2…) These accessories have timeout defaults from the manufacturer and will turn OFF automatically after the time has expired. Timeout time for LIGHT default is 60 minutes; BLOWER default is 15 minutes; JET at low speed default is 60 minutes; and JET at high speed is 15 minutes. User can change these default times in “DEVICE TIMEOUT” setting menu.

SETTING TEMPERATURE:

To change water set temperature, push smaller temperature number and scroll to desired temperature. Push SELECT button to choose temperature or EXIT to return to Main Screen. Changing set temperature will make Heater Pump turn on to get accurate water temperature to determine if water needs to be heated up.

HEATER:

When Heater Pump turns on HEATER START-UP icon will appear if heat is needed. Heater will turn on and HEATER icon will appear after 5 minutes.

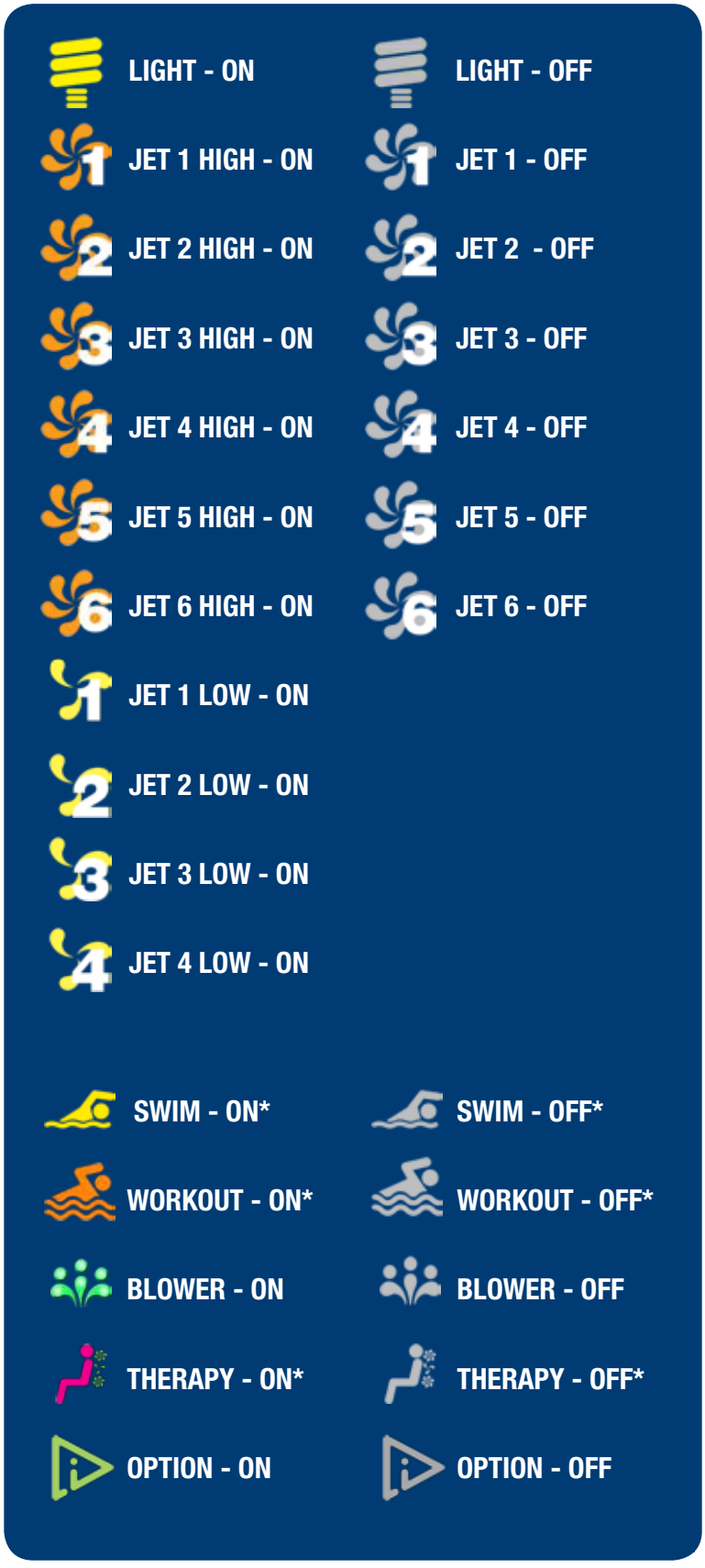
PANEL TIMEOUT:

If user is in Setting Menus and no button is pushed within 30 seconds, the screen will timeout, current screen setting will be lost and panel reverts back to Main Screen. In Main Screen, if no button is pushed within 60 minutes, all LED and LCD lights will turn off and panel will go to sleep. Any button pushed in this time will wake the panel up, LED and LCD lights will turn back on and panel will poll for water temperature.

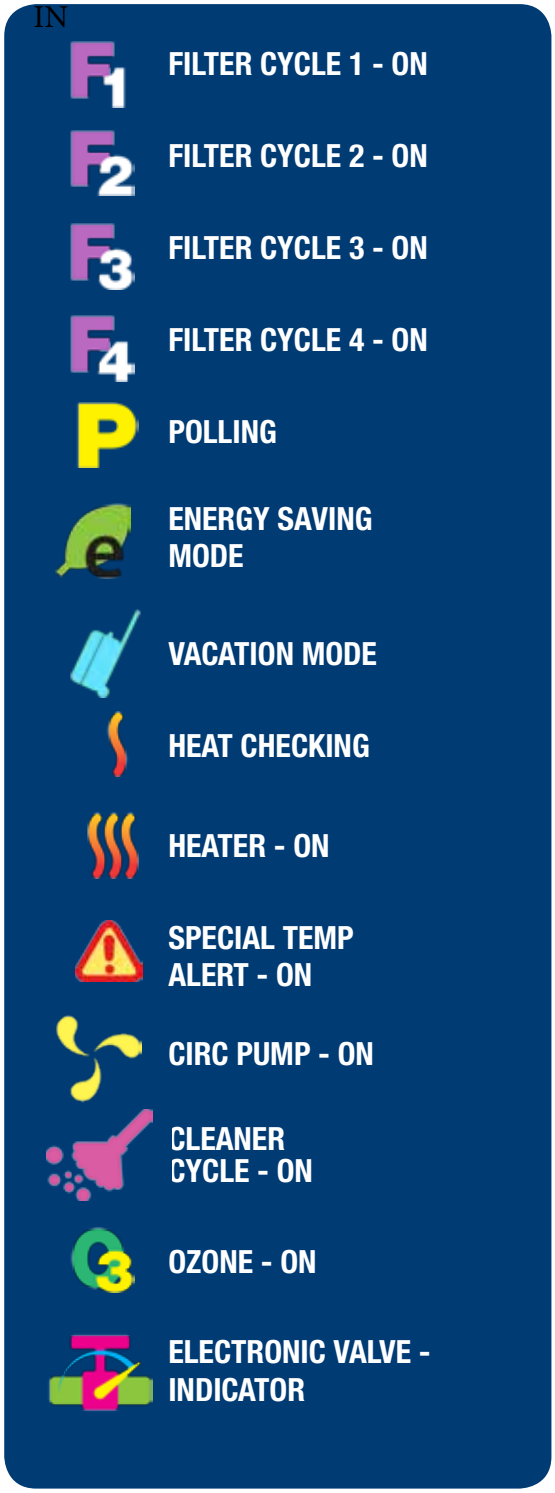
MENU NAVIGATION:

- To enter settings, swipe from right to left from Main Screen.
- To return to Main Screen from settings, swipe from left to right.

MAIN SCREEN CONTROL ICONS



STATUS ICONS



*For specific Swim, Workout or Therapy applications only, not available on all systems.

NEO TP500 MAIN SCREEN CONTROL

The Main Screen displays current time, water temperature, spa setting temperature, and status of the system accessories in the center of the screen. To change spa set temperature, press the spa set temperature number. Select the appropriate temperature level and press SAVE to save the desired setting or EXIT to reverse back to the last setting without saving the setting. For configurations for Swim Spa and Therapy, turn ON/OFF Swim mode or Therapy mode. Instead of current temperature display, it will display the current speed/therapy number. In this case, press the number to change the swim speed/therapy number. Select the appropriate speed/therapy number and press SAVE to save the desired setting or EXIT to reverse back to the last setting without saving the setting.

See **MAIN SCREEN CONTROL & STATUS ICONS** page 4.

The left column of the screen shows all device function buttons available for the current configuration. This column scrolls up and down to show more buttons if necessary. Turn system accessories ON and OFF by pushing appropriate button on the left column of panel (LIGHT, JET 1, BLOWER, JET 2…). These accessories have timeout defaults from the manufacturer and will turn OFF automatically after the time has expired. Timeout time for LIGHT default is 60 minutes; BLOWER default is 15 minutes; JET at low speed default is 60 minutes; and JET at high speed is 15 minutes. User can change these default times in DEVICE TIMEOUT setting menu.

The right column of the screen controls the following functions:

BRIGHTNESS: Press this button to enter brightness screen setting. Select the appropriate brightness level and press SAVE to save the desired setting or EXIT to reverse back to the last setting without saving the setting.

PANDORA:
- Press and hold this button, a menu will pop up to allow user to select their radio station.
- Press this button to open the selected radio application

YOUTUBE: press this button to open YouTube application

INTERNET: press this button to open Internet application

MUSIC: press this button to open music application

CLEAR: This icon will show up in the BRIGHTNESS position whenever there is a message display in the time display field. Press this button to clear the message and return to normal display.

BLUETOOTH – CONNECT

BLUETOOTH – DISCONNECT

WATERWAY APP

ELECTRONIC VALVE

INTERNET MUSIC APP
- Internet Radio
- Pandora
- iHeartRadio
- Spotify
- USB

MENU NAVIGATION: Swipe Main Screen from right to left to go to Setting Screen. In Setting Screen swipe from left to right to return to Main Screen. To change the setting, press the appropriate setting functions to get into the sub-menu and change the setting.

After changing the setting press **SAVE** button to save the setting.

Press **RETURN** button to go back to the previous screen.

Press **HOME** button to go back to the Main Screen.

NEO TP500 SETTING SCREENS

GENERAL SETTINGS: This will allow user to change the following settings:

DEGREE F/C: displays spa temperature in Celsius or Fahrenheit. This option is only available for 60 Hz countries.

TIME DISPLAY: displays spa time in AM/PM or 24 hours' time.

LANGUAGE: to select various languages for the spa display.

DEVICE TIMEOUT: allows changes to timeout setting for various devices.

WATER TEMPERATURE CHECK TIME: sets time for the Heater Pump to turn on to check for water temperature. This only available for Non-Circs configurations.

DATE-TIME SETTING: sets the date and time of the system.

HEAT MODE SETTING: sets the system heat mode to Standard; Energy Saving; or Vacation mode

PANEL LOCK SETTING: provides various choices to lock the panel. If one of the Lock Modes is selected, the main panel will display the selected Lock Mode instead of "Spa Set Temperature". To unlock the panel enter "1805" to the pop-up panel Lock screen.

TIMERS SETTING: This will allow user to set the following timers:

NO HEATING TIME: sets the time frame for NOT allowing heater to turn on for saving energy cost.

FILTER CYCLE 1 TIME: sets the time frame to turn on Filter Cycle number 1.

FILTER CYCLE 2 TIME: sets the time frame to turn on Filter Cycle number 2.

FILTER CYCLE 3 TIME: sets the time frame to turn on Filter Cycle number 3.

FILTER CYCLE 4 TIME: sets the time frame to turn on Filter Cycle number 4.

QUIET TIME: sets the time for NOT allowing pump to turn on to check for water temperature during the night or other desired periods. Note that this setting will not stop Filter Cycle setting if it overlaps with this time. This only available for Non-Circs configurations.

OPTION TIME: sets the time frame to turn on Option device. This only available for configurations with Option device.

SWIM WORKOUT TIME*: sets the time period for each of the swim speeds in Swim Workout mode.
*For specific Swim applications only, not available on all systems.

NEO TP500 SETTING SCREENS (continued)

BACKGROUND SETTING: allows user to set one of the 6 backgrounds for the spa application

CLEANER CYCLE SETTING: starts the additional filtration period after using the spa. Only available for Non-Circs configurations.

GENERAL INFORMATION: displays General Information for the spa.

SPECIAL TEMPERATURE SELECTION: allows the user to temporarily set the spa to higher than maximum set temperature for Therapy.

SERENITY MODE: Start/Stop a Serenity Mode by turning off all outputs and provides quite time while in the spa.

DEMO MODE: starts Demo Mode to demonstrate all device capabilities of the spa.

SERVICE MODE: available only for Authorized Dealers and Spa Manufacturer.

SYSTEM SETTING: allows various system settings such as Wi-Fi connection; Bluetooth connection; font size.

MOBILE APP DEVICE REGISTRATION: allows registration of the system so user can operate with the Spa Mobile App.

ERROR SCREENS (Press **RETURN** to clear.)

PLUMBING ERROR: Error caused when SENSOR 1 and SENSOR 3 have been plugged in incorrectly.
SENSOR 1 OPEN: Swap the SENSOR 1 and SENSOR 3 plug in controller to correct this problem. Check SENSOR 1 connection.

INSUFFICIENT FLOW: Error caused by no water flow through heater or no water in heater.
SENSOR 1 SHORT: Check to be sure there is enough water flow through heater. Check SENSOR 1 connection or replace SENSOR 1.

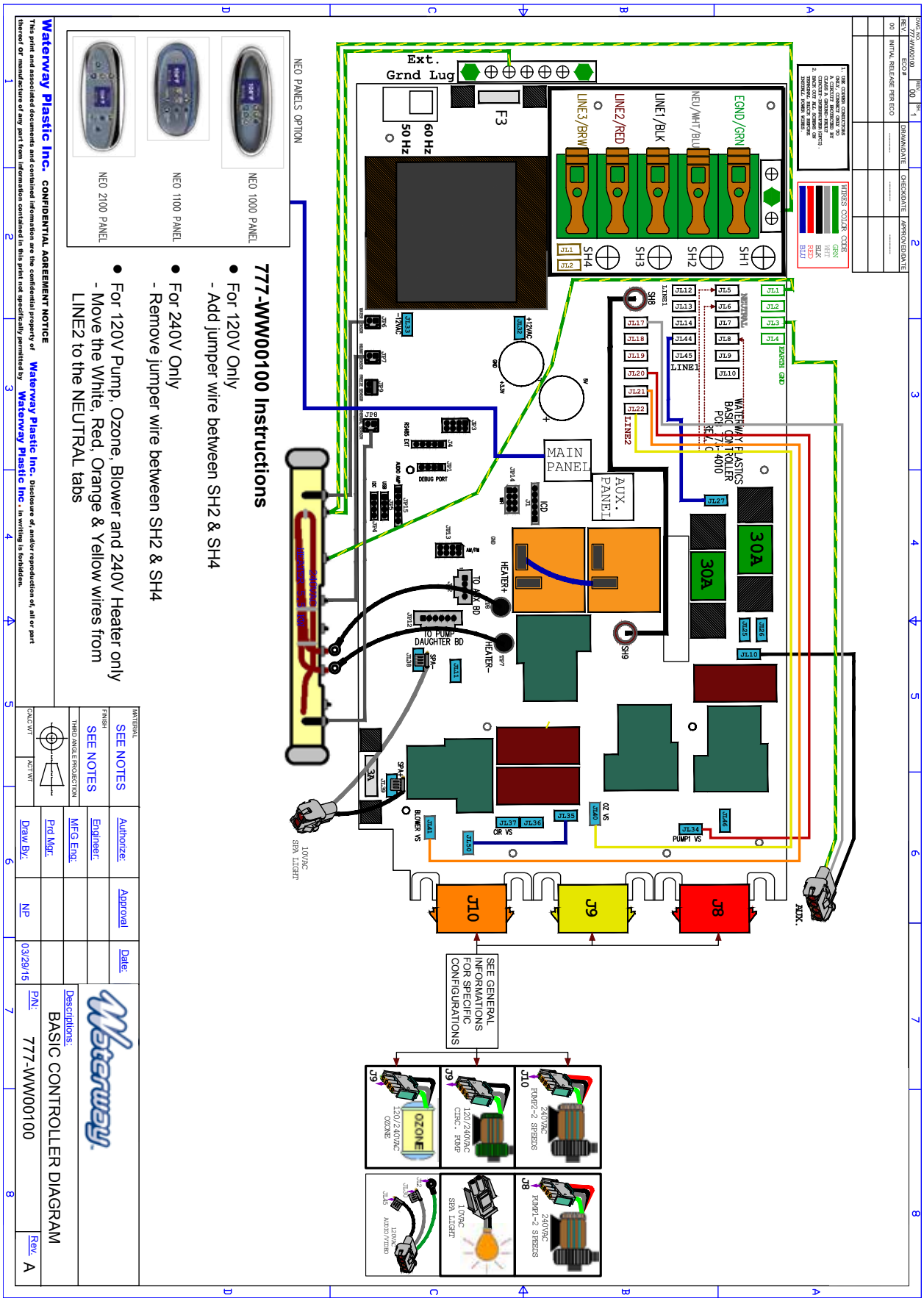
LOW FLOW: Check to be sure there is enough water flow through heater.
SENSOR 2 OPEN: Check SENSOR 2 connection.

WATER OVERHEAT: Wait for water temperature to cool down.
SENSOR 2 SHORT: Check SENSOR 2 connection or replace SENSOR 2.

HEATER OVERHEAT: Wait for water temperature to cool down.
SENSOR 3 OPEN: Check to be sure there is enough water flow through heater. Check SENSOR 3 connection.

POTENTIAL FREEZE: Error caused when SENSOR 1, 2, or 3 detects low temperature. All JETS and BLOWERS will turn on automatically to protect plumbing from freezing. JETS and BLOWERS will shut down when all 3 sensors reach a desired temperature.
SENSOR 1 SHORT: Check SENSOR 3 connection or replace SENSOR 3.

WIRING DIAGRAM 777-WW00100-A without Daughter Board



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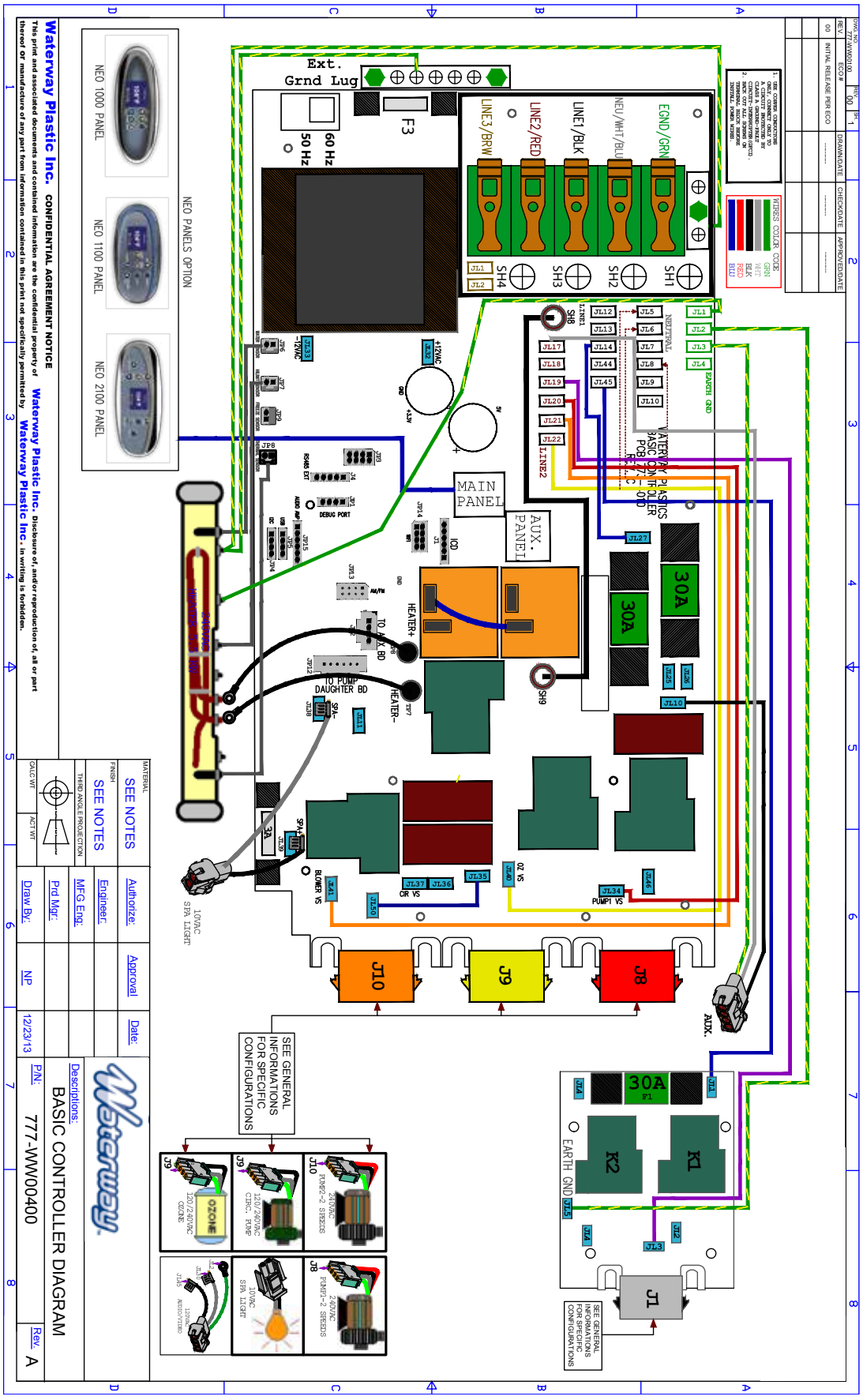
MATERIAL	SEE NOTES	Authorize:	Approval	Date:
FINISH	SEE NOTES	Engineer:		
THIRD ANGLE PROJECTION		MFG Eng:		
CALC WT:	ACT WT:	Prd Mgr:		
		Draw By:	NP	03/29/15

Waterway

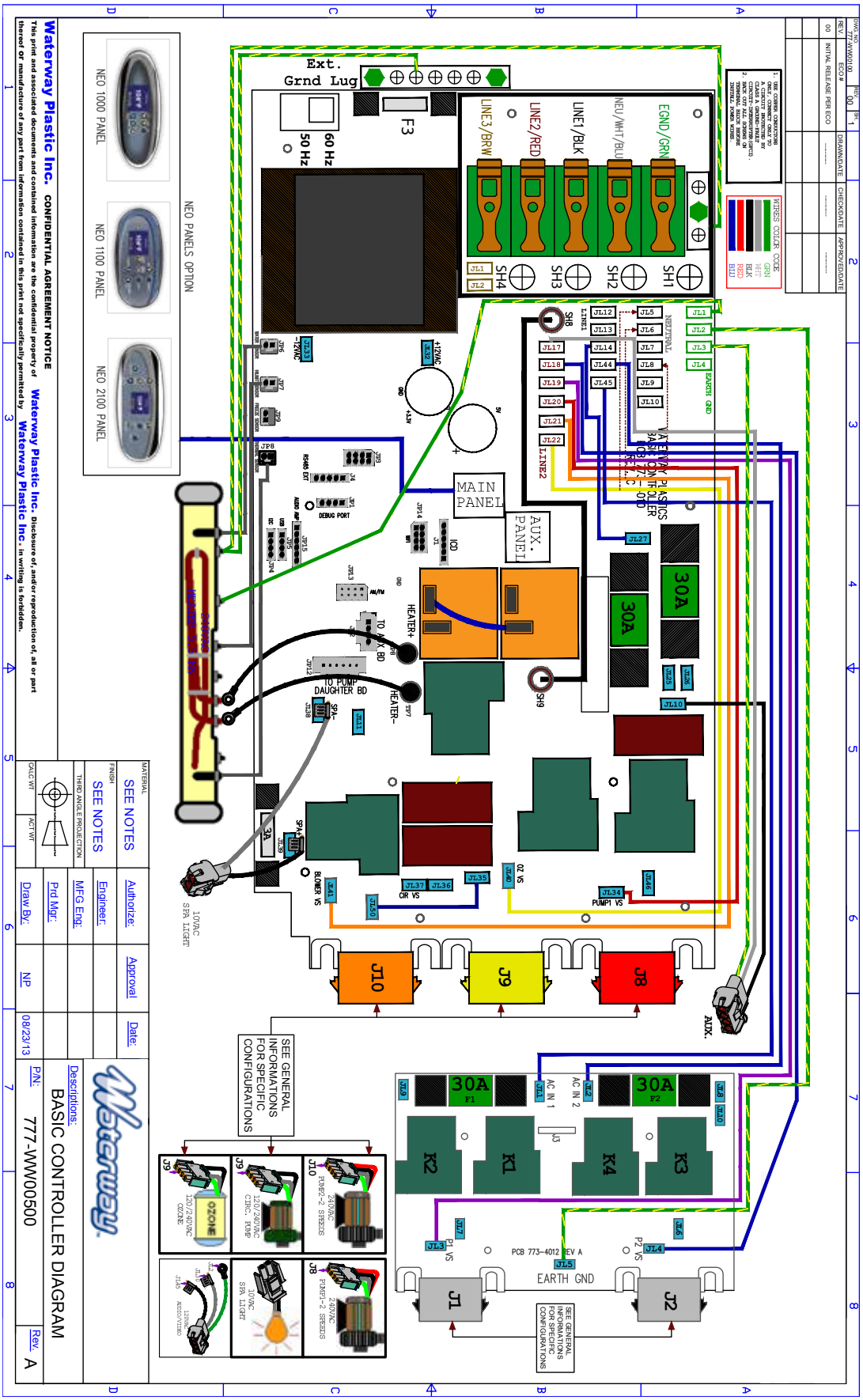
Descriptions: BASIC CONTROLLER DIAGRAM

P/N: 777-WW00100 Rev. A

WIRING DIAGRAM 777-WW00400-A with DB1 2SPD Daughter Board



WIRING DIAGRAM 777-WW00500-A with DB2 2SPD Daughter Board)



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MFG Eng:	
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Draw By:	NP
Prd Mgr:	
	08/23/13

THIRD ANGLE PROJECTION

CALC WT

ACT WT

Waterway

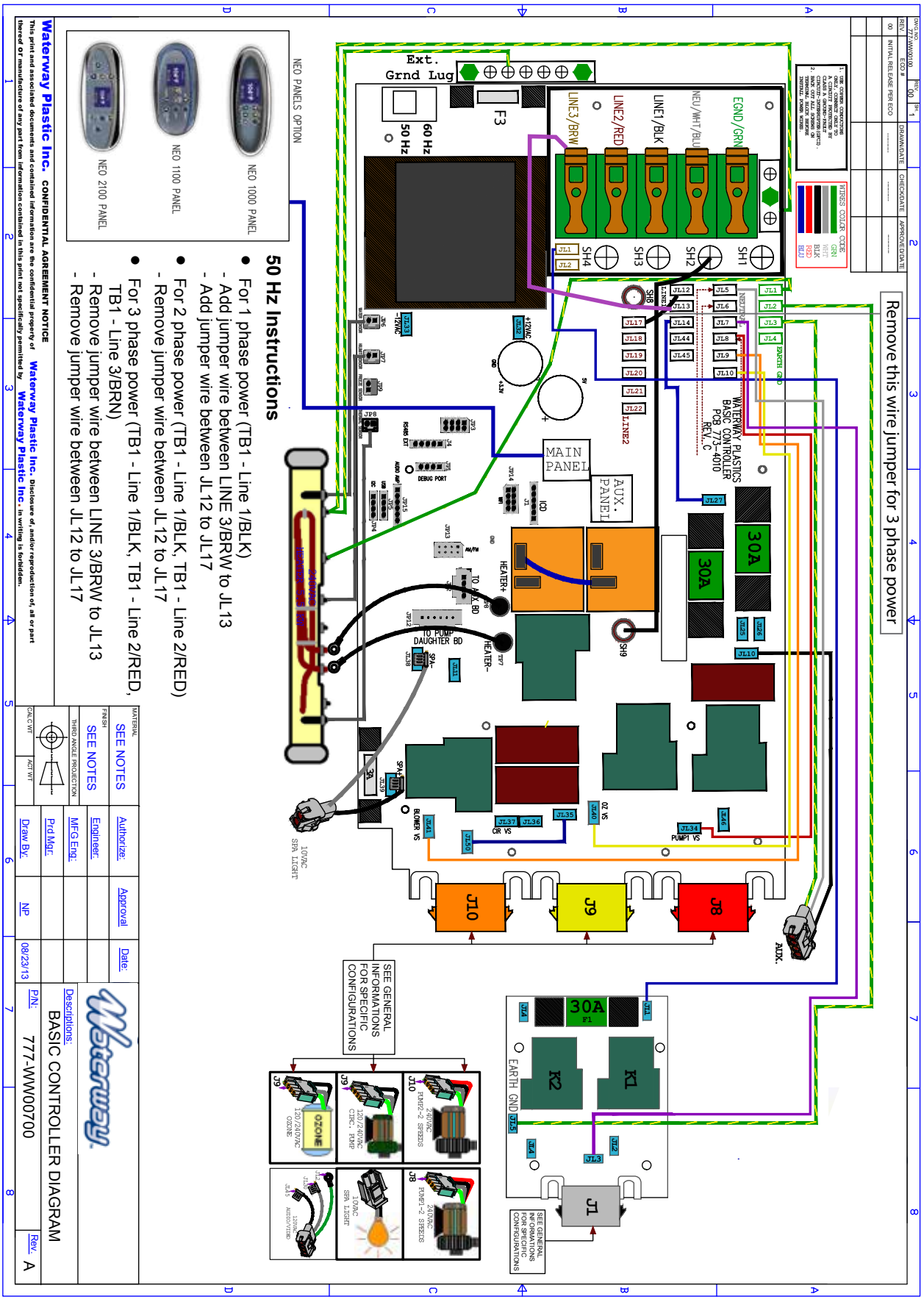
Descriptions:

BASIC CONTROLLER DIAGRAM

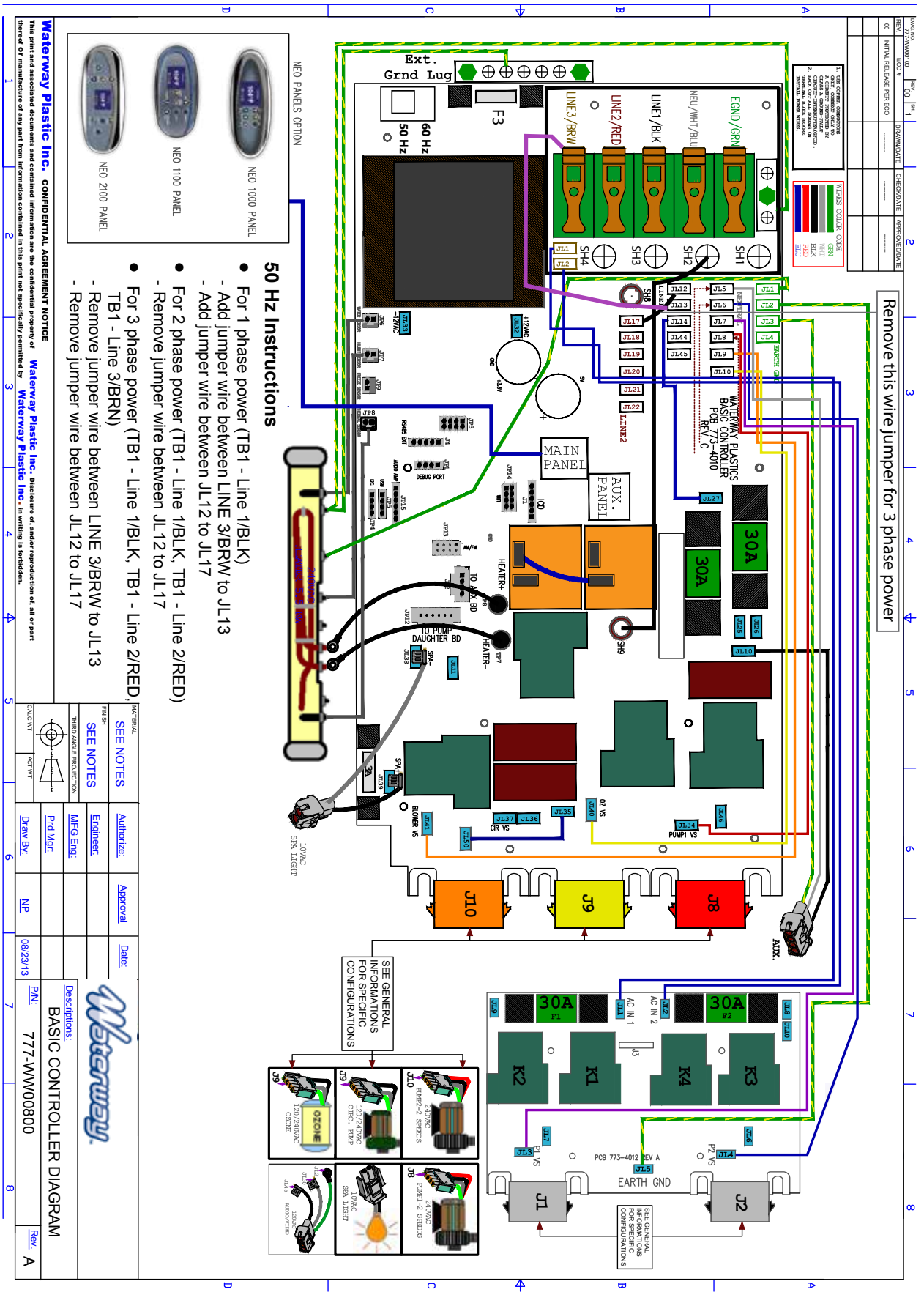
P/N: 777-WW00500

Rev. A

WIRING DIAGRAM 777-WW00700 with DB1 1SPD Daughter Board_0216



WIRING DIAGRAM 777-WW00800-A with DB2 2SPD Daughter Board



50 Hz Instructions

- For 1 phase power (TB1 - Line 1/BLK)
  - Add jumper wire between LINE 3/BRW to JL13
  - Add jumper wire between JL12 to JL17
- For 2 phase power (TB1 - Line 1/BLK, TB1 - Line 2/RED)
  - Remove jumper wire between JL12 to JL17
- For 3 phase power (TB1 - Line 1/BLK, TB1 - Line 2/RED, TB1 - Line 3/BRN)
  - Remove jumper wire between LINE 3/BRW to JL13
  - Remove jumper wire between JL12 to JL17

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Descriptions: BASIC CONTROLLER DIAGRAM

P/N: 777-WW00800 Rev: A